E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE 19898

CHEMICALS, DYES AND PIGMENTS DEPARTMENT

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43543

file 70.28 ORIGINAL (Red)

Newport, Delaware
June 27, 1978

Dr. T. Lee Go, Supervisor
Solid Waste Management Section
State of Delaware
Department of Natural Resources
and Environmental Control
Division of Environmental Control
Edward Tatnall Building
Dover, Delaware 19901

Dear Dr. Go:

In response to your hazardous waste management planning questionnaire and discussions with Ken Weiss, DNREC, we have attached tables of solid and liquid wastes that the Plant generates. The solid waste information has been given to Ken Weiss during an earlier telephone conversation. The wastes are divided into five sections and are listed as follows:

- Section 1 - Shows analyses performed on our 007 NPDES discharge - a small discharge to the Christina River.
- Section 2 - Shows analyses performed on our main Plant sewer that discharges to the New Castle County sewer.
- Section 3 - Shows the air drying lagoon that is used to dry mud taken from our three water reservoirs.
- Section 4 - Shows the analyses performed on samples taken from nine monitor wells located on the perimeter of our abandoned landfill.

- Section 5 - Shows solid wastes generated by the Plant with volumes, destination, and disposition of the material. This section uses Schedule I as an outline.

In the area of air waste management, Ken Weiss, DNREC, has informed me that he would obtain the necessary information from our Delaware State Air Permits.

For additional information, please call me at 999-6245.

Very truly yours,

R. Z. FORTNEY, PLANT MANAGER

BY: _____
PETER E. KRESS
ENVIRONMENTAL CONTROL

PEK:jcb

Attachments

Section 1

007 Discharge to the Christina River
Permit Nos. 007 NPDES WPCC 3106/74

Our 007 NPDES discharge to the Christina River is a clear stream of noncontact cooling water. Every month results are sent to the Division of Environmental Control, Delaware Department of Natural Resources and Environmental Control. Average results of analyses performed on this discharge for 1977 are as follows:

Flow = 0.223 MGD	Checked monthly
BOD5 = 5.495 ppm	Sampled monthly
SS = 20.458 ppm	Sampled monthly
Temperature = 73.9	Checked daily
pH = 7.47	Checked daily
Zinc = 0.91	Sampled quarterly

Temperature, pH, and flow are checked by Plant personnel, while BOD5, SS, and Zn are sampled by Plant personnel and are analyzed by Brandt Laboratories.

Section 2

Plant sewer

Our Plant sewer discharges wastes to the New Castle County sewer and operates under (WPD-76-013) New Castle County sewer permit.

During 1977, seventy-eight 24-hour samples were taken by the Plant and sent to Brandt Laboratories for analyses. The results of these analyses were sent New Castle County Department of Public Works to check that the Plant was operating within permit limitations and were also used for billing purposes. During 1977, New Castle County sampled our effluent twenty-seven times to check the accuracy of our results; and there were no significant discrepancies.

The average results of our sampling and Brandt Laboratories analyses are as follows:

BOD_5 = 1617.11 ppm	Total chromium = 11.88 ppm
Suspended solids = 828.33 ppm	Total iron = 35.39 ppm
Total copper = 19.76 ppm	Arsenic = 0.047 ppm
Soluble copper = 2.94 ppm	Selenium = 0.075 ppm

BOD_5 consisting of kerosene
Dowtherm A
ethanol
methanol

Suspended solids consisting of "Afflair" pigment
Quinacridone pigment
Not considered hazardous — Copper Phthalocyanine pigment
aluminum salts

Flow - The average flow for 1977 averaged 1.53 million gallons per day.

pH - The average pH was in the 6-11 range 99% of the time. As of March 1978, the Plant began operating in the 6-9 range limitation based on a 24 composite sample. The 1978 pH averages 7.77.

Trace amounts of the following are intermittently present in the sewer effluent:

aluminum	manganese
ammonia	nickel
barium	oil and grease
bromide	phenols
cadmium	phosphate
calcium	sodium
chlorine	surfactants
chloride	vanadium
	zinc

Section 3

Drying Lagoon
Permit No. SWS 76/07

The Newport Plant has a drying lagoon which operates under Permit SWS 76/07. This permit allows the Plant to use an area at the west end of the Plant to air dry mud taken out of our creek water treatment facilities (three reservoirs).

Muddy water is pumped into the reservoirs from the Christina River and aluminum sulfate is added to the muddy water to settle out the mud. The Plant has two NPDES permits which allow it to send nineteen pounds of SS back into the river but is impractical so we no longer use NPDES discharges 005 and 006.

Every four to six months, the reservoirs are emptied of water and the residual mud on the bottom of the reservoirs is taken to the drying lagoon at the west end of the Plant where it is allowed to air dry. The muddy material stays on the Plant. Approximately 1,200,000 gallons of mud are moved to the drying lagoon each year. The mud that is moved to the drying lagoon is very dilute. In order to break up the mud at the bottom of the reservoirs and make the mud pumpable, the mud is broken up with large volumes of high pressure water.

Section 4

Abandoned Landfill

The Newport Plant has an abandoned landfill that is located on the southwestern portion of the Plant. The landfill has not been used for years and has been covered with topsoil. In accordance with State recommendations, the Plant has had nine wells drilled around the landfill to monitor metal and organic levels in underground water. This information has been sent to R. N. Stouffer of the Water Supply Branch of DNREC.

The information below represents average results of samples taken on the nine monitor wells and two pumping wells that are located around the landfill. The two pumping wells are used for process operations and are located 400 to 500 feet from the landfill while the monitor wells are located on the perimeter of the landfill.

Basic Data: Average in ppm - March 1977 to March 1978 - monitor wells results; December 1976 to April 1978 - pumping wells 11 and 13 results.

Wells	T.Ba	Cd	T.Cr	Diss. Fe	Pb	T.Zn	TOC	Cn
*DM1	1.80	<0.012	<0.086	0.096	<0.061	0.736	6.4	<0.045
*DM2	3.41	<0.30	0.088	2.136	<0.07	91.6	5.7	<0.022
*DM3	<1.66	1.98	<0.072	0.312	<0.05	316.4	9.4	<0.0102
*DM4	<2.625	0.021	<0.075	<0.09	<0.06	0.92	<4	<0.0085
*DM5	2.185	0.02	0.095	0.103	0.07	0.958	6	.0072
*DM6	0.492	0.019	0.09	2.25	<0.07	5.805	7.75	<0.006
*SM1	143.6	0.08	0.25	0.082	0.38	6.95	9.8	0.016
*SM2	1.94	0.017	0.066	0.082	0.05	0.88	3.7	0.012
*SM3	4.2	<0.016	0.07	0.314	0.05	6.56	14.7	0.009
+WW11	<0.25	<0.014	<0.085	<0.10	<0.047	1.41	<6.01	<0.007
+WW13	<0.28	0.028	<0.045	<0.17	<0.036	3.66	<3.1	<0.012

* - Monitor wells.

+ - Pumping wells

SCHEDULE I

;ory	Hazardous Waste Material or Compound	Quantity	CONTAINER Type	CONTAINER Size	DATE Generated	DATE Shipped	Destination	DISPOSITION Disposed	DISPOSITION Treated	METHOD Disposal	METHOD Treatmer
--	Sand containing <1% chromium dioxide	1,000 tons/yr	truck bulk	6 ton/ each	Daily	Bi-monthly)	Chemtrol Model City New York	Yes	No	Landfilled in "Hypalon" lined ponds	
--	Chromium dioxide sludge	6 tons/ yr.	Lever Paks	30 gal	"	"	"	Yes	Yes	"	Incineratio
--	"Mylar" coated with chromium dioxide	120 tons /yr	Poly bags	60 lbs. /bag	"	Bi-weekly	"	Yes	Yes	"	"
--	Chromic oxide	3 tons/ yr	Lever Paks	47 gal	"	Bi-monthly	"	Yes	No	"	"
--	Ammonium dichromate	1/2 ton /yr	Lever Paks	30 gal	"	"	"	Yes	Yes	"	"
--	Paper and cloth contaminated with chromium dioxide sludge	60 tons /yr	Poly bags	60 lbs	"	Bi-weekly	"	Yes	Yes	"	"
--	Chromium dioxide contaminated filters and waste paper	20 tons /yr	Lever Paks	47 gal	"	Bi-monthly	"	Yes	Yes	"	"
--	Chromium dioxide	9 tons/ hr	Lever Paks	47 g	"	"	"	Yes	Yes	"	"
--	Filter ca con- taining oluble trivalen hromium hydroxid	360 tons /yr	Lever Paks	47 gal	"	Bi-weekly	"	Yes	No	"	

SCHEDULE I

gory	Hazardous Waste Material or Compound	Quantity	CONTAINER Type	CONTAINER Size	DATE Generated	DATE Shipped	Destination	DISPOSITION Disposed	DISPOSITION Treated	METHOD Disposal	METHOD Treatmer
--	Chromic acid containing waste	6 tons /yr	Drum	55 gal	Sporadically	Yearly	Chemtrol Model City New York	Yes	No	Lined landfill	
--	Bags contaminated with antimony trioxide	30 lb. /yr	Dumpster	--	Weekly	Weekly	Tentatively to Chemtrol Model City New York	Yes	No	Landfilled	

SCHEDULE I

;ory	Hazardous Waste Material or Compound	Quantity	CONTAINER Type	CONTAINER Size	DATE Generated	DATE Shipped	Destination	DISPOSITION Disposed	DISPOSITION Treated	METHOD Disposal	METHOD Treatmer
	Methanol ethanol mixture (trace H_2O) (trace amounts of high boilers)	340,000 gal/yr	tank truck	6,000 gal TT	Periodically		Solvent Recovery Systems Linden,N.J.			Distill ethanol from methanol and ship both back to Newport Trace amounts of residual high boiler are recovered by SRS and they are disposed of as a residual fue	
	Tars-dry	130 tons /yr	truck	7 cu. yd. dump truck	Periodically		Honeybrook Landfill,Pa. and Knickerbocker Landfill, Malvern, Pa.	Yes	No	Landfilled	
	Methanol, ethanol, Dowtherm, caustic aniline, ortho chloro aniline, para chloro aniline, trace organics mixture	6,000 gal/yr	tank truck	6,000 gal TT	Tentatively once/yr		Tentatively to Rollins Env. Services, Bridgeport, N.J.	Yes	No		Incineratio
	Asbestos	145 cu. ft. of Super X asbestos block insula. 2 tons	3 pallets con. 29 cardboard containers	145 cu. ft. put on a truck	Material in packages that was never used	3-22-78	Chem-trol Pollution Services,Inc. Model City New York	Yes	No	Landfilled	

SCHEDULE I

gory	Hazardous Waste Material or Compound	Quantity	CONTAINER Type	CONTAINER Size	DATE Generated	DATE Shipped	Destination	DISPOSITION Disposed	DISPOSITION Treated	METHOD Disposal	METHOD Treatmer
	12,000 gallon steel tank covered with insulation. Tank has been cleaned but the insulation has been contaminated with para cloro aniline and an 8" heel of polymerized para cloro aniline remains in the bottom of the tank	1	steel tk. with insul.	8' W 12' H cylinderical	Tentatively in 1978		Tentatively to Chem-trol Pollution services, Inc. Model City New York	Yes	No	Landfill	
	Para toluidine solid	4	heavy gauge steel drum	55 gal shipped on a flatbed truck	Tentatively in 1978		"	Yes	No	Landfill	

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